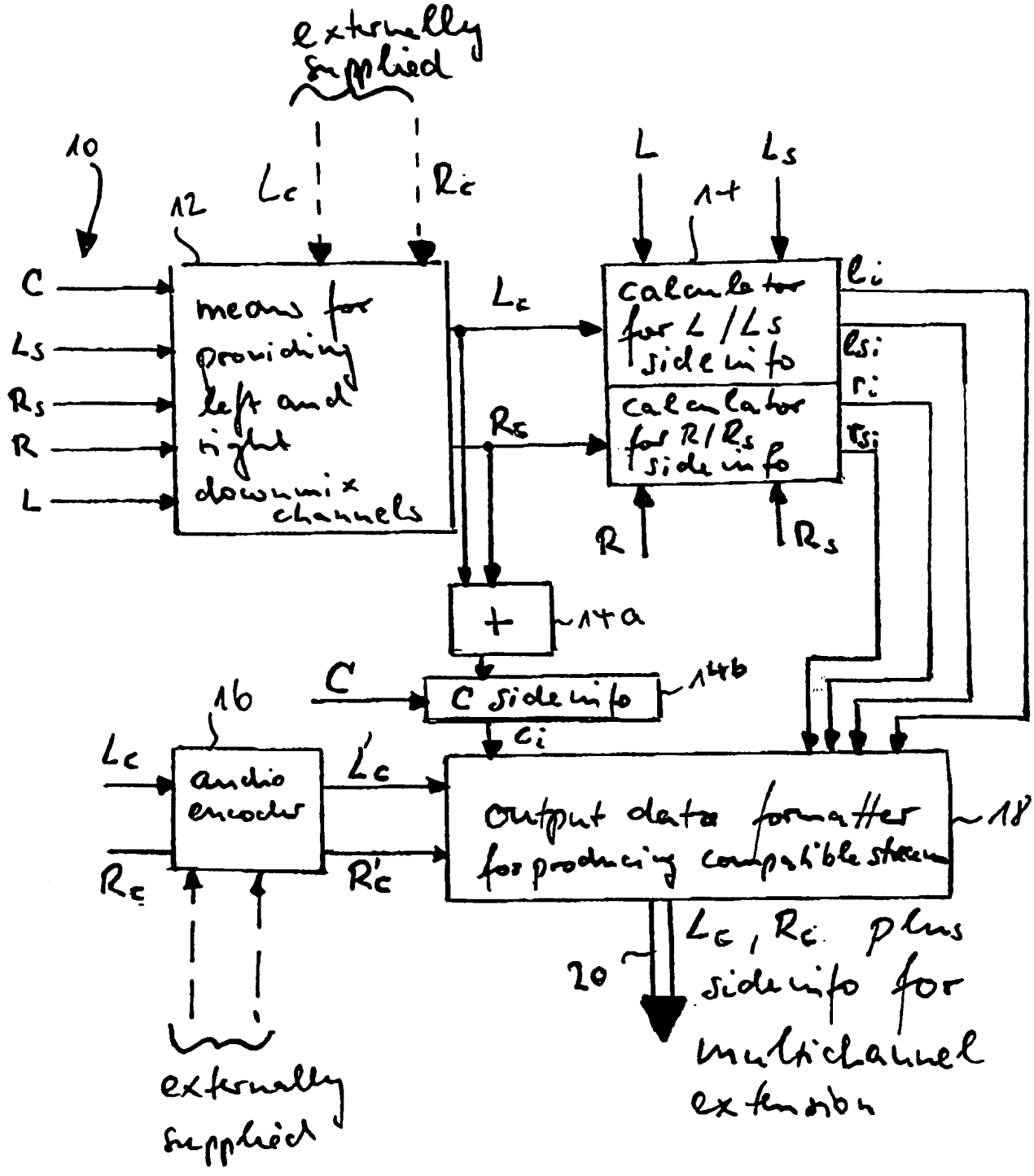

FIG. 1 (Encoder)

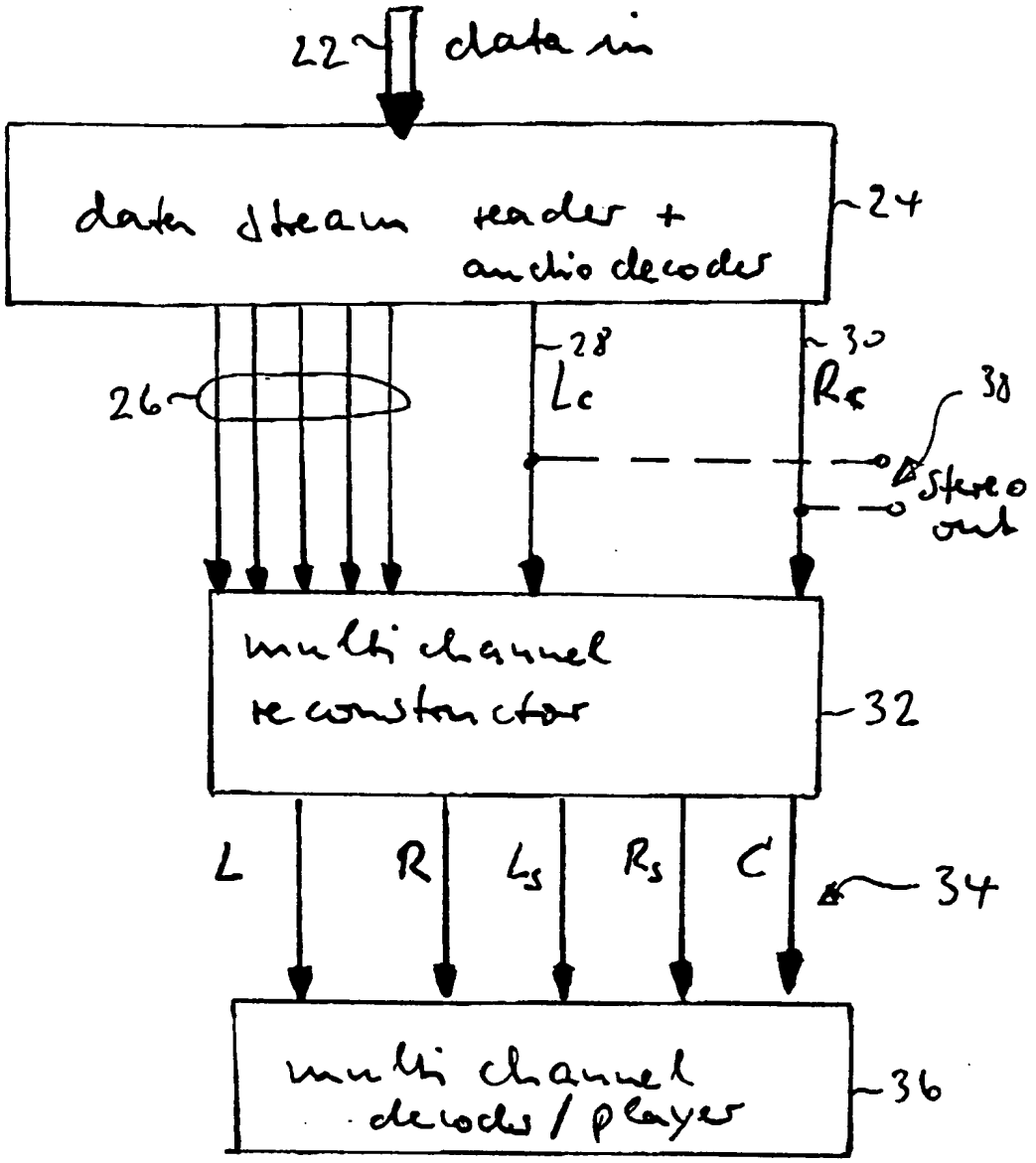

FIG. 2 (Decoder)

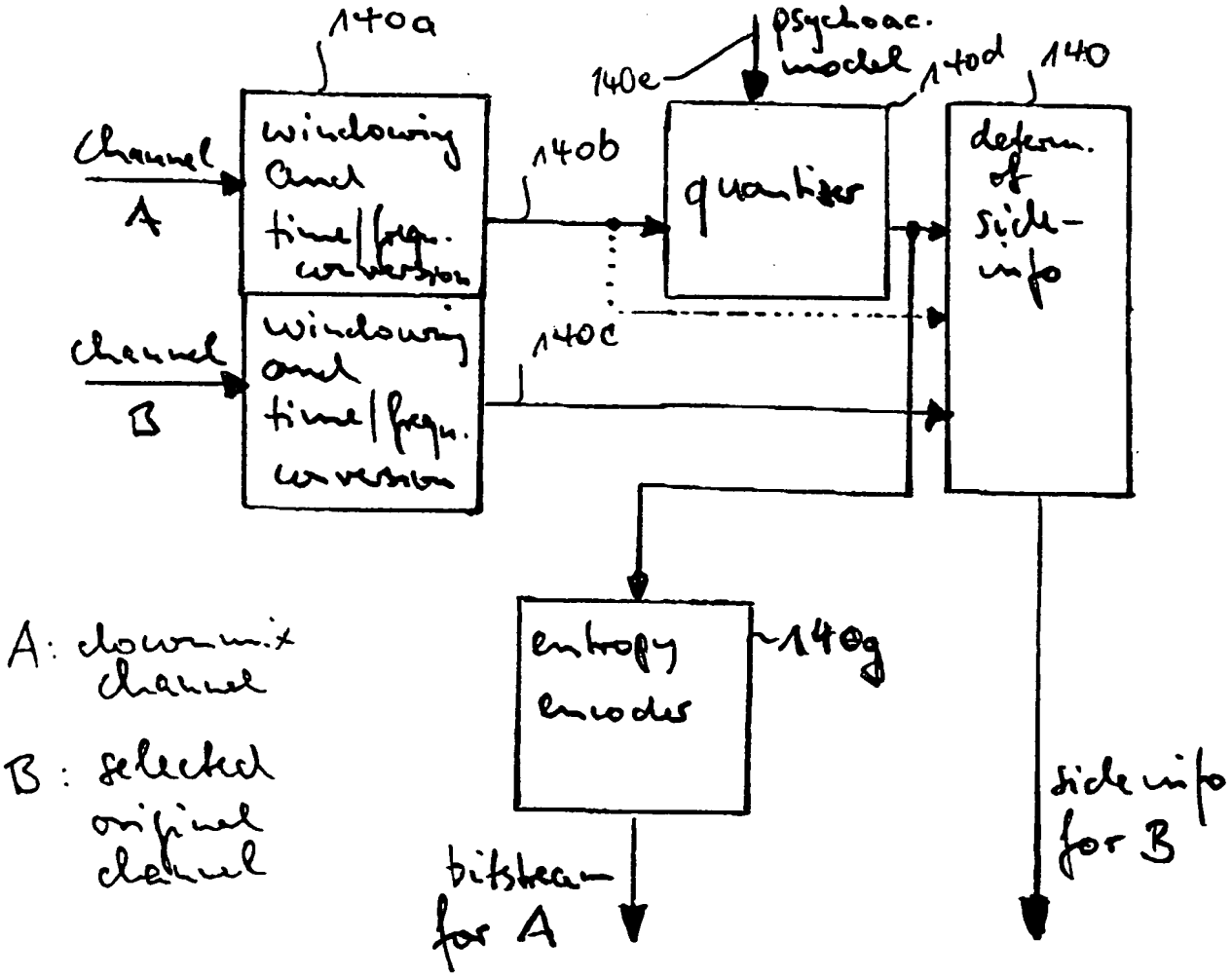
140a
psychoac. model
140e
140d
140
Channel A
windowing and time/freq. conversion
140b
quantizer
determ. of side-info
Channel B
windowing and time/freq. conversion
140c
A: downmix channel
B: selected original channel
entropy encoder
140g
side info for B
bitstream for A

FIG. 3A

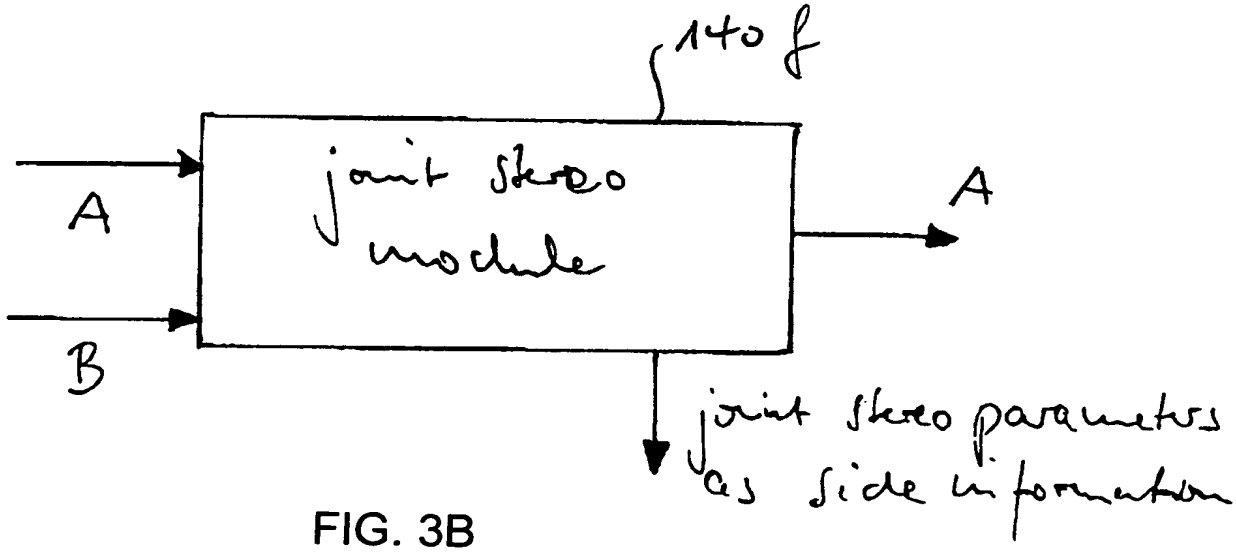
140f
A
B
joint stereo module
A
joint stereo parameters as side information

FIG. 3B

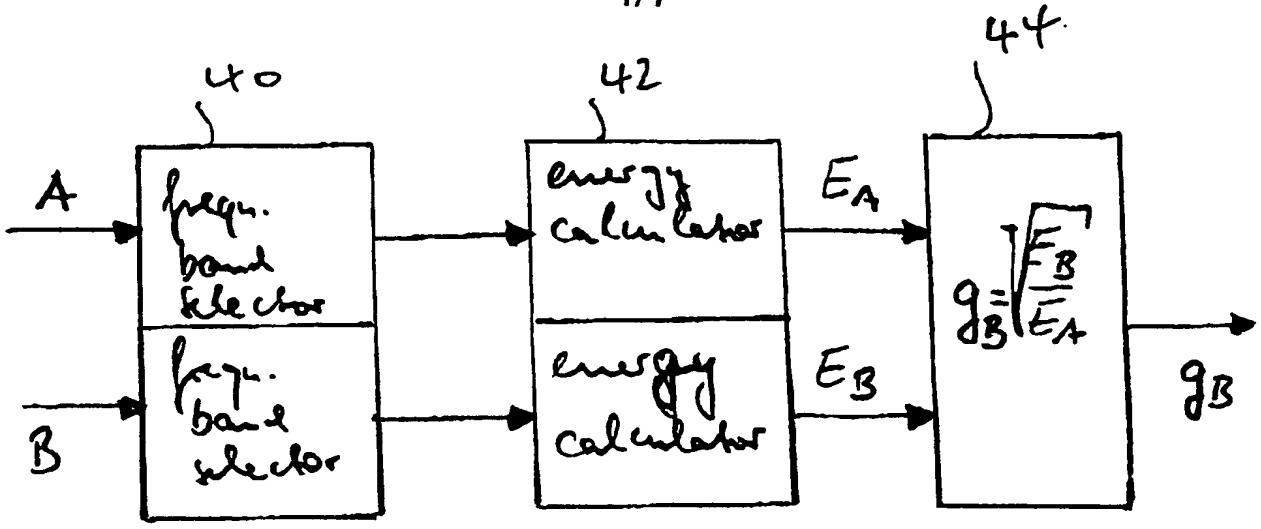

FIG. 4 (encoder side)

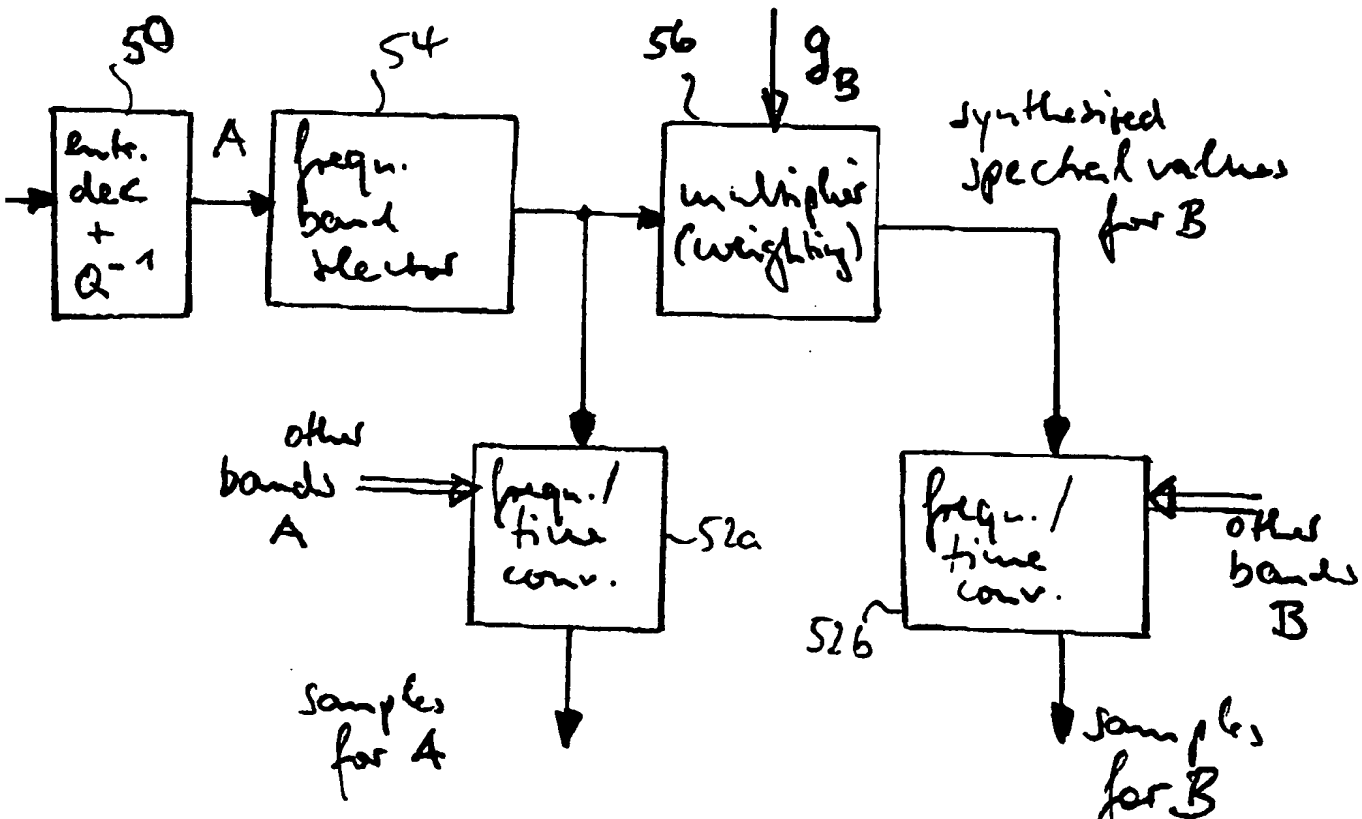

FIG. 5 (decoder side)

DOWNMIX

$$L_c = t \cdot [L + a \cdot L_s + b \cdot C]$$

$$R_c = t \cdot [R + a \cdot R_s + b \cdot C]$$

all signals are time domain signals

$a, b, t \leq 1$

preferred: $a = b = 0,7$

or: $a = 0,5$; $b = 0,7$

FIG. 6

ch. side info	CHANNEL B: Side infos / parameters for:	CHANNEL A: are determined using:
l_i	L	L_c
l_{si}	L_s	L_c
r_i	R	R_c
r_{si}	R_s	R_c
c_i	C	$L_c + R_c$

FIG. 7

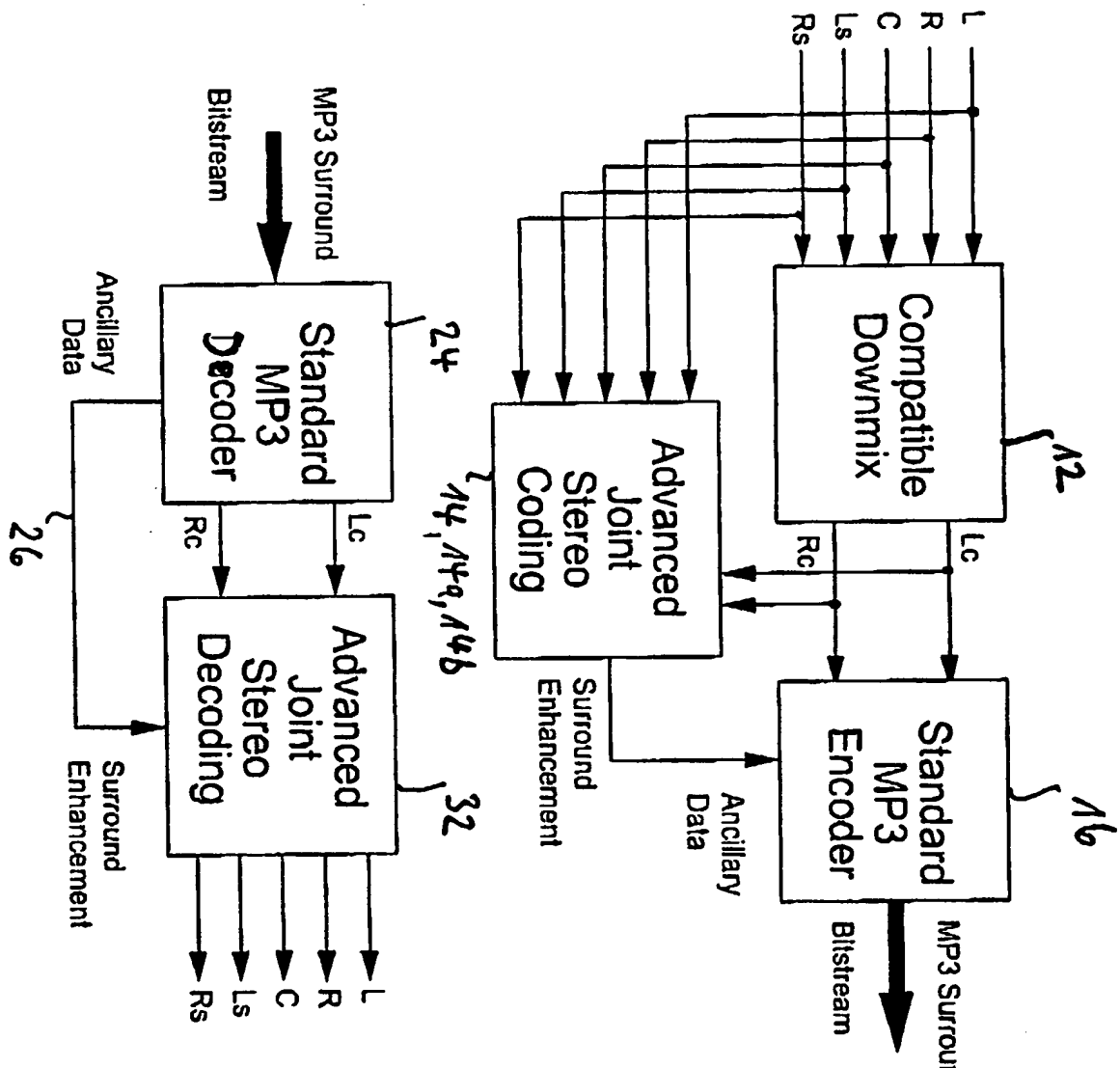
L
R
C
Ls
Rs
Compatible Downmix
12
Lc
Rc
Advanced Joint Stereo Coding
14, 14a, 14b
Surround Enhancement
Ancillary Data
Standard MP3 Encoder
16
Bitstream
MP3 Surround

FIG. 8

MP3 Surround
Bitstream
Standard MP3 Decoder
24
Ancillary Data
26
Rc
Lc
Advanced Joint Stereo Decoding
32
Surround Enhancement
L
R
C
Ls
Rs

FIG. 9

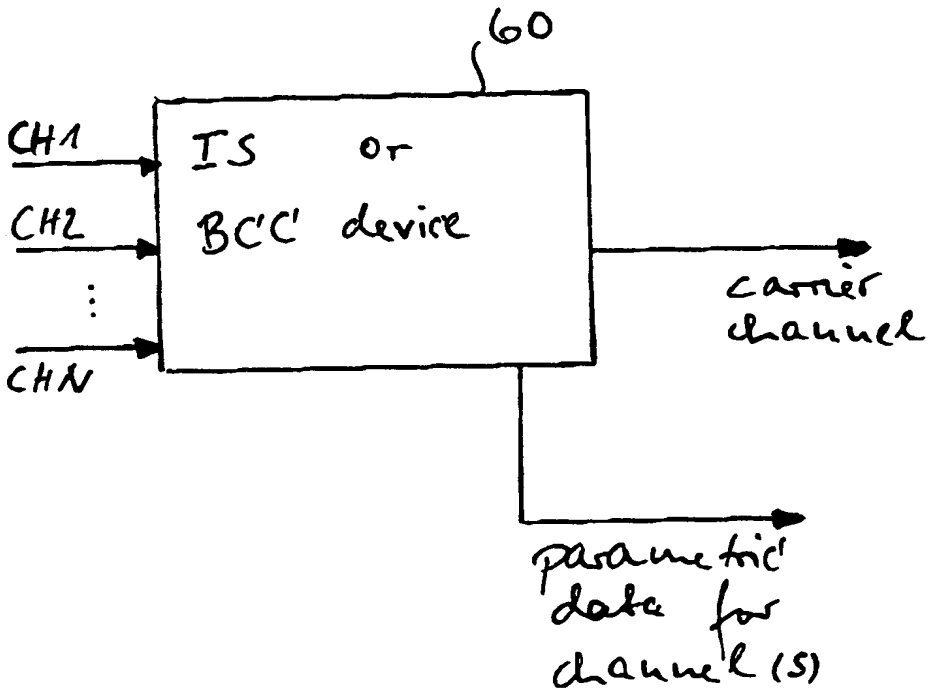

FIG. 10
PRIOR ART